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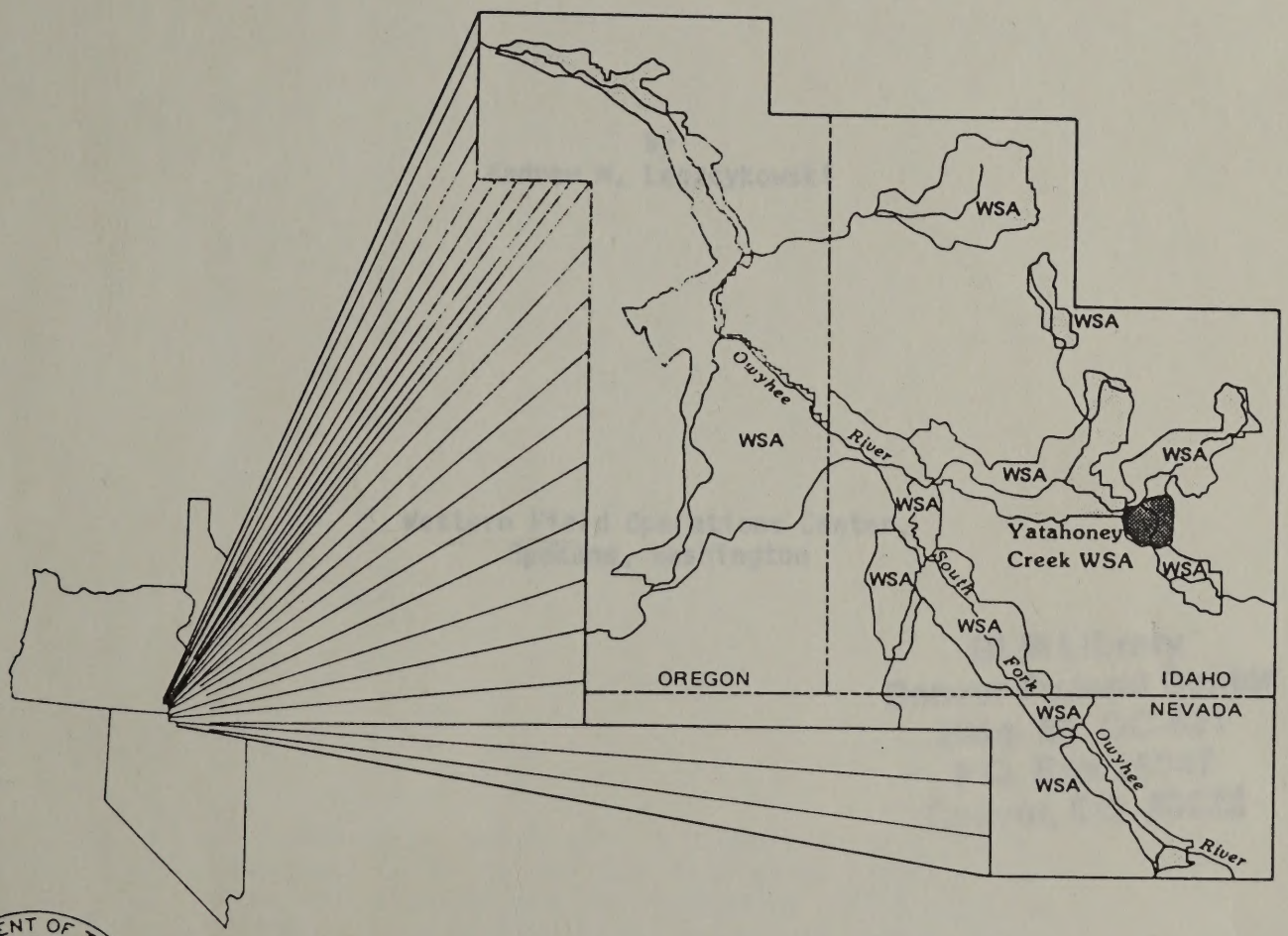

BUREAU OF MINES
UNITED STATES DEPARTMENT OF THE INTERIOR

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MINERAL RESOURCES OF THE YATAHONEY CREEK WILDERNESS STUDY AREA, OWYHEE COUNTY, IDAHO

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PREFACE

The Federal Land Policy and Management Act (Public Law 94-579, October 21, 1976) requires the U.S. Geological Survey and U.S. Bureau of Mines to conduct mineral surveys on U.S. Bureau of Land Management administered land designated as Wilderness Study Areas ". . . to determine the mineral values, if any, that may be present . . . ." Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a Bureau of Mines mineral survey of the Yatahoney Creek Wilderness Study Area (ID-16-49D), Owyhee County, ID.

This open-file report will be summarized in a joint report published by the U.S. Geological Survey. The data were gathered and interpreted by Bureau of Mines personnel from Western Field Operations Center, East 360 Third Avenue, Spokane, WA 99202. The report has been edited by members of the Branch of Mineral Land Assessment at the field center and reviewed at the Division of Mineral Land Assessment, Washington, DC.

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SUMMARY

In 1984, personnel from the U.S. Bureau of Mines examined the 9,550-acre Yatahoney Creek Wilderness Study Area (WSA) for mineral resources. This study area, in southwestern Idaho, is underlain by tuffs and basalt of Tertiary age. Owyhee County mining records and U.S. Bureau of Land Management records, and other references were examined prior to the field study. There are no known mines, claims, or prospects in or near the WSA. No evidence of mineral deposits or occurrences was observed. Oil and gas leases or lease applications are in the southern portion and northeast corner of the WSA. Although placer gold exists in the Owyhee River drainage, there are insufficient deposits of gold-bearing gravel in the Yatahoney Creek WSA to enable mining.

INTRODUCTION

The U.S. Bureau of Mines (USBM) and the U.S. Geological Survey (USGS) conduct mineral surveys of designated wilderness study areas (WSAs) 1/ to ensure mineral values that may be present are considered in wilderness recommendations. The USBM examines known mines, prospects, and mineralized sites, and the USGS performs geologic mapping, and geochemical and geophysical surveys on an areal basis.

Information from these mineral surveys focuses on one aspect of the area's suitability for wilderness classification. Although the immediate goal is to provide data for land-use decisions, the long-term objective of the USBM studies is to help ensure the Nation has an adequate and dependable supply of minerals at a reasonable cost.

Setting

The Yatahoney Creek WSA encompasses 9,990 acres in Owyhee County, Idaho. Yatahoney Creek, a tributary of the Owyhee River, is in the extreme southwestern part of Idaho. Access to the study area is via approximately 24 mi (miles) of improved and unimproved dirt roads westerly from Riddle, ID, or approximately 80 mi southerly from Jordan Valley, OR (fig. 1). The WSA is bounded on the north by roads separating it from the Battle Creek and Deep Creek-Owyhee River WSAs (Winters, 1985; Capstick and Buehler, 1985), and is just north of the Juniper Creek WSA (Graham, 1985) from which it is separated by a natural gas pipeline right-of-way.

1/ A WSA is a roadless area or island that has been inventoried by the U.S. Bureau of Land Management and found to have wilderness characteristics as described in Section 603 of the Federal Land Policy and Management Act and Section 2(c) of the Wilderness Act of 1964 (78 stat. 891).

Elevations in the WSA range from 4,609 ft (feet) on the Owyhee River near Wiley Ranch to 5,322 ft on the east rim of the canyon on Windy Point (fig. 2). Relief in the area is considerable along major drainages; primarily the Owyhee River and Yatahoney Creek where the canyon rims are as much as 500 ft above the water and nearly vertical. Plateaus on the east and west sides of the river are flat or gently rolling with only about 100 ft of elevation change. Vegetation consists of low sagebrush and grasses on the canyon rims, with willows, grasses, and brush along the river canyon bottom. Climate in the area is typical high plateau desert, with cold, snowy winters and hot, dry summers.

Previous Studies

Several regional studies of the geology or mineral potential in the vicinity of the Yatahoney Creek WSA were completed recently. Mineral resources along the Owyhee River were studied by Morris (1976) under provisions of the Wild and Scenic Rivers Act (Public Law 90-542). In 1980, the National Uranium Resource Evaluation (NURE) program produced a map by Geodata International. Also, as part of the NURE program three reports were published in 1982, (Berry and others, Fay and Cook, and Oak Ridge Gaseous Diffusion Plant). These reports concerned the mineral potential of the general area of the WSA. A geologic map encompassing the WSA was published in 1981 (Ekren and others). Reports on the geology of the general area of southwestern Idaho were published in 1982 (Bonnischen and Breckenridge) and in 1984 (Ekren and others). Terradata, Inc. assessed the geology, energy, and mineral (GEM) resources of the Owyhee River area, under contract to the BLM, and prepared a report in 1982 (Mathews and Blackburn).

Present Study

Work by the USBM entailed pre-field, field, and report preparation phases in 1984-85. Pre-field studies included library research and examination of Owyhee County and BLM mining and mineral lease records. Bureau of Mines and other production records were searched. Ground, aerial, and river-float reconnaissance was conducted to locate any mining-related activity that may not have been recorded. During the study, six samples were taken of country rock and two samples of alluvium.

ACKNOWLEDGEMENTS

John Benedict of the BLM District Office in Boise, ID, was instrumental in organizing and leading a float trip down the Owyhee River through the study area.

GEOLOGIC SETTING

The geology of the WSA is dominated by Tertiary volcanic flows of Little Jacks Creek Tuff and Banbury Basalt. Volcanic activity has been extensive in this region since the Miocene Epoch. The tuffs cover the entire WSA and are overlain in the southern part by basalt flows. These

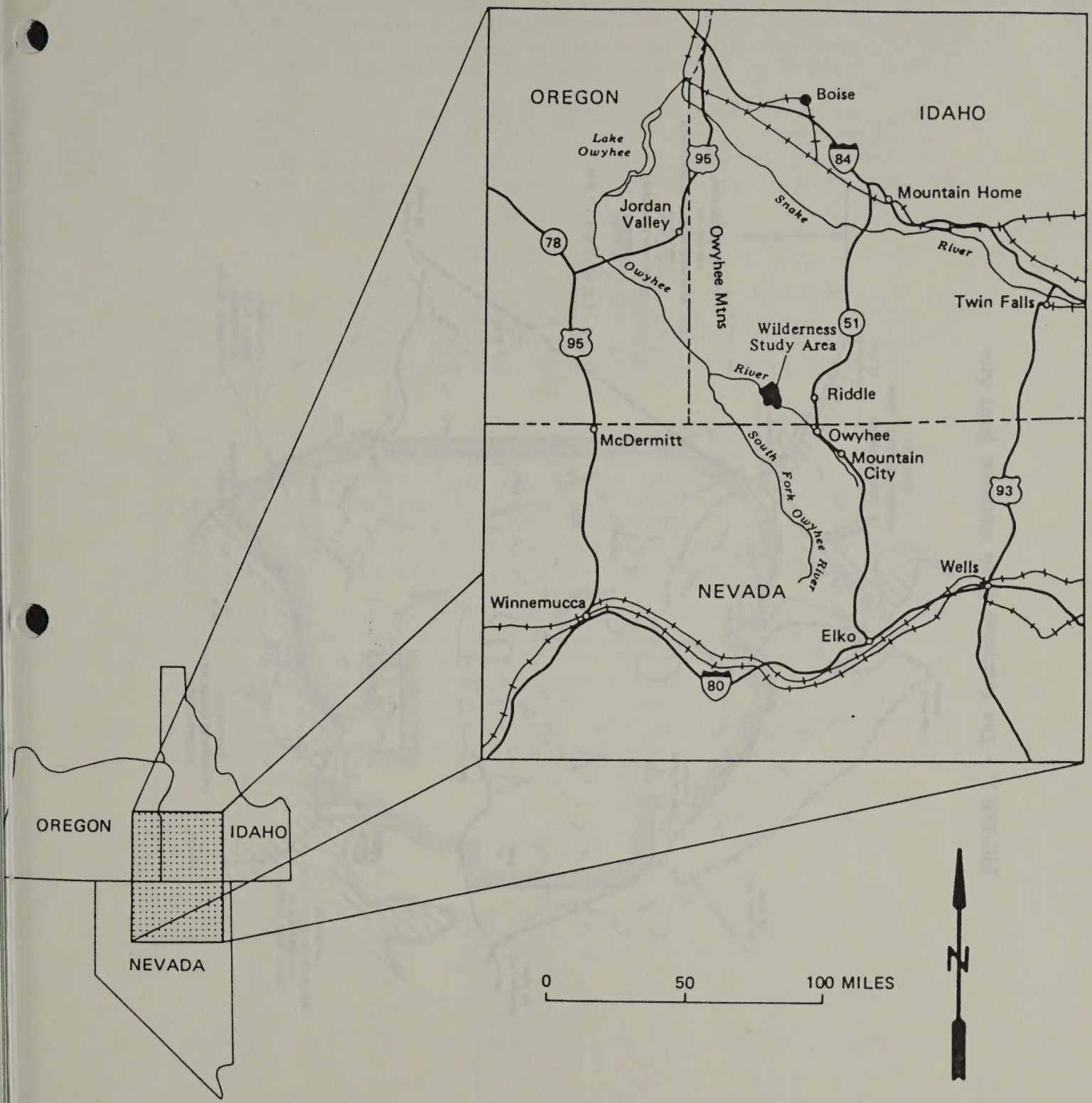

FIGURE 1. – Location of the Yatahoney Creek Wilderness Study Area, ID

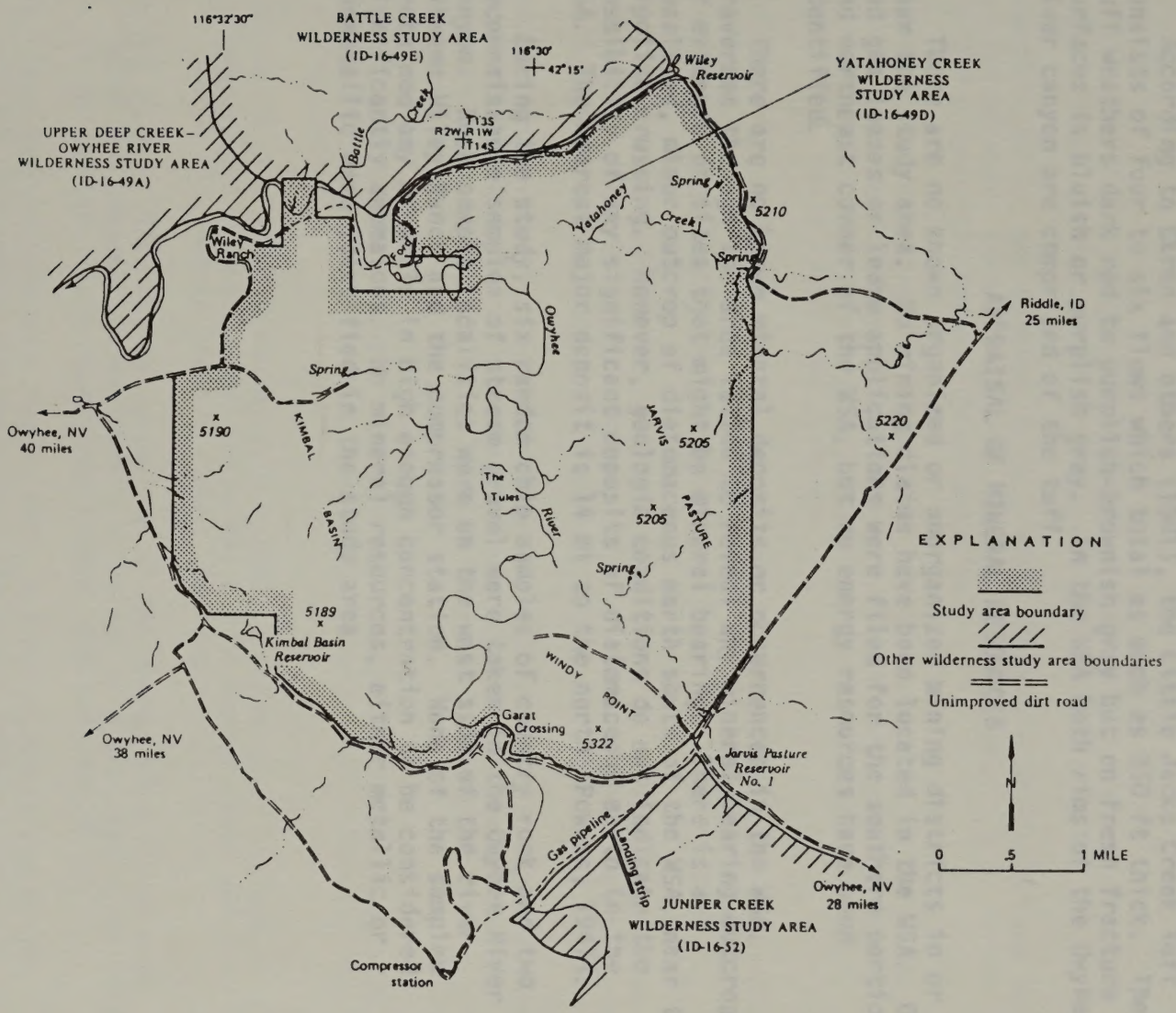

FIGURE 2. – The Yatahoney Creek Wilderness Study Area

are thin flows of the upper unit of the Banbury. With the basalt are local, interbedded sediments composed of basalt clasts, tuffaceous sand and gravel, and chert and quartzite pebbles and cobbles. In the extreme southern part of the WSA is a small outcrop of tuffs of Juniper Creek.

According to Ekren and others (1981), the Little Jacks Creek Tuff consists of four to six flows which total as much as 350 ft thick. The tuff weathers dark red to purplish-brownish gray but on fresh fracture surfaces is bluish or purplish gray. In the WSA both rims of the Owyhee River canyon are comprised of the tuff.

APPRAISAL OF MINERAL RESOURCES

There are no known organized or unorganized mining districts in or near the study area. No mining claims have been located in the WSA. Oil and gas leases or lease applications were filed for the southern portion and northeast corner of the WSA, but no energy resources have been identified.

There are no known mineral deposits or occurrences in the WSA. Traverses through the area failed to reveal any mineral-bearing outcrops or evidence of sites that might be mineral bearing. There is a localized, minor outcrop of diatomaceous earth south of the WSA, near the pipeline crossing. However, geologic conditions do not indicate the possibility of any significant deposits of diatomaceous earth in the WSA. The nearest major deposit is 14 mi to the north (Powers, 1947).

During the study, six random chip samples of country rock and two reconnaissance samples of stream gravel were taken in the Owyhee River canyon. Rock sample localities were on the west side of the river between Wiley Ranch and the compressor station. None of the samples contained any minerals in high enough concentration to be considered significantly anomalous. No mineral resources, either metallic or nonmetallic were identified in the study area.

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